



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

ALPHONSE DE CANDOLLE.

ALPHONSE LOUIS PIERRE PYRAMUS DE CANDOLLE, born in Paris, 27 October, 1806, a son of the botanist, Augustin Pyrame de Candolle, was for sixty years a prominent figure in the botanical world, and with hardly any perceptible diminution of his mental powers, having reached an age which made him one of the oldest of living botanists, he died at Geneva, 4 April, 1893, leaving a son to represent the third generation of botanists in this remarkable family. His early life was passed at Montpellier, where his father was Professor until the family removed to Geneva. In 1825 he began the study of law at Geneva, taking his degree in 1829. From 1831 he assisted his father in his duties as Professor of Botany, and in 1835 he succeeded him in that position, which he held until 1850 when he retired to private life, his ample private fortune enabling him to devote himself to botany. In 1832 he was married to Mlle. Jeanne Kunkler, who died forty-five years later. The greater part of his married life was passed in Geneva in the winter, and at his country-house in Vallon in the suburbs of that city in the summer; but during the last few years of his life he did not leave the house on the Cour Saint-Pierre, well known to all botanists as containing the great herbarium founded by his father.

One is naturally tempted to compare the botanical work of Alphonse de Candolle with that of his father, under whose guidance he was trained; but in fact no comparison is possible, for the characteristics of their scientific work were very different, and their natural tastes were quite dissimilar. The elder De Candolle was one of the masters of descriptive botany. In 1826 he commenced the publication of the *Prodromus*, a work planned on a vast scale to include descriptions of all known plants, of which seven volumes had already appeared previous to his death, in 1841. Although the name of Alphonse de Candolle was associated with that of his father in the *Prodromus*, he had no real fondness for descriptive work, being more interested in other botanical subjects. It should not be understood, however, that, even if his tastes were not in this special direction, his descriptive work was not excellent. On the contrary, his first paper, *Mono-graphie des Campanulacées*, published in 1831, was not only admirable from a taxonomic point of view, but was also valuable for the notes on plant distribution, a subject which he was destined to treat more fully at a later day. On the death of his father, De Candolle took charge

of the continuation of the *Prodromus*, until, on the completion of the Dicotyledons in the seventeenth volume, issued in 1873, it was necessarily abandoned, not from indifference on his part, but because, owing to the rapid increase of collections and explorations in recent times, the field had become too great for a single work on the original plan of the *Prodromus*. In nothing are the moral and intellectual qualities of De Candolle better seen than in his management of the *Prodromus*. To a certain extent, sacrificing his individual preferences to a sense of filial duty, he devoted himself to the completion of the great work planned by his father, sparing neither thought nor money. Although the working up of the numerous orders was, of necessity, entrusted to specialists, too much cannot be said in praise of his good judgment in supervising the whole and of his constant courtesy towards and just appreciation of other botanists, which enabled him to secure the willing aid of experts when necessary. Although the *Prodromus*, as a distinct work, came to an end with the completion of the seventeenth volume, Alphonse de Candolle, assisted by his son Casimir, began in 1878 a series of *Monographiæ Phanerogamarum*, to include some orders not treated in the *Prodromus*, and revisions of certain of the orders contained in its earlier volumes.

The great work of De Candolle was his *Géographie Botanique Raisonnée*, which appeared in 1855. In this he displayed at their best the qualities which marked him as a great botanist in a field in which he was not overshadowed by the greater reputation of his father, as had been the case in his earlier writings. It is probable that the writings of Humboldt had first attracted him to the study of the distribution of plants. In the *Géographie* is clearly seen the legal quality predominating in his mind. This may in part be attributed to his early professional studies but it is not unlikely that it was to a great extent inborn. He brought together an immense number of facts, arranged them with great skill, and reviewed them collectively with a clear, unpartisan criticism worthy of a judge on the bench. He had such a talent for collecting statistics, and using them with discretion, that, had he not been brought up as a botanist, we might almost suppose that he would have been a political economist. In estimating the value of the *Géographie* we should not forget that it was published four years before the appearance of Darwin's "Origin of Species." Bearing this in mind, we cannot fail to recognize the great superiority of this work over previous works on distribution.

The position assumed by De Candolle in his *Géographie* can be expressed best in the following condensed translation of his own words:—

“The principal facts of geology and palæontology suffice to explain the facts of botanical geography, or at least to indicate the nature of the explanation, which it requires the progress of many sciences to complete. The most numerous, the most important, and often the most anomalous facts in the existing distribution of plants, are explained by the operation of causes anterior to those now in operation, or by the joint operation of these and of still more ancient causes, sometimes of such as are primitive. The geographical and physical operations of our own epoch play but a secondary part. The only phenomena explainable by existing circumstances are: 1st, the limitation of species, and consequently of genera and families, in every country where they now appear; 2d, the distribution of the individuals of a species in the country it inhabits; 3d, the geographical origin and extension of cultivated species; 4th, the naturalization of species and the opposite phenomenon of their increasing rarity; 5th, the disappearance of species contemporaneous with man. . . .

“In all this we observe proofs of the greater influence of primitive causes, and of those anterior to our epoch; but the growing activity of man is daily effacing these, and it is no small advantage of our progressing civilization that it enables us to collect a multitude of facts of which our successors will have no visible and tangible proof.”

De Candolle did not make the least pretence of attempting to explain the origin of species, but limited himself to the question of distribution. The causes of the present distribution involve ultimately, of course, the question as to their origin, but the immediate question which De Candolle desired to discuss was simply, What are the existing facts regarding distribution, and in what direction do those facts point? The *Géographie* is a storehouse of facts which is still of very great value to students of distribution, and it is to be regarded as a merit of De Candolle's work that he attempted to point out clearly what could be explained by present conditions, as distinguished from the more extended question of what must necessarily be referred to past ages for solution. He, among other points, insisted that in estimating the effect of climate we must consider, not the mean temperatures, but the mean temperatures during the growing season, or those above the freezing point. The question of the origin of cultivated plants, which formed a part of the *Géographie*, was again treated in detail by De Candolle in his *Origine des Plantes Cultivées*, 1883, a work involving not only great botanical knowledge, but also prolonged archæological study, and which is regarded by experts as a classic on the subject.

The evolutionary writings of Darwin had their effect on the later

work of De Candolle. In his *Histoire des Sciences et des Savants* he attempted in his favorite statistical manner to trace, if possible, the direct inheritance of talent for scientific studies. Assuming that the leaders of science would naturally be elected members of learned societies, he compared the family names to be found in the lists of members of certain societies, and came to the general conclusion that by inheritance it was not so much marked special talents which were acquired, as what we may call general intellectual force, so that the sons of distinguished men are on the whole as likely to reach distinction in different fields of science from those in which their fathers were distinguished, as they were to attain prominence in the same fields. It has however been objected, with more or less justice, to data from the membership in learned societies, that such membership, although presumably a recognition of ability, is not always so, and that an allowance must be made for favoritism, and other human failings, from which even members of learned societies are not exempt.

The principles which should guide botanists in describing plants, or, if we may be allowed to use the expression, the literary technique of systematic botany, was a subject in which De Candolle was much interested, and what he wrote on this topic was always marked by clearness and suggestiveness. His sound common sense enabled him to distinguish at once what was accurate and practical, from what was vague and visionary. Probably no botanist was ever consulted so frequently as he on the general principles of plant nomenclature, and none was ever more discreet and urbane in the discussion of this delicate question. His *Phytographie*, 1880, was an admirable treatise, expounding the general principles and traditions of nomenclature in a most sensible way, entirely devoid of personal feeling or partisanship, a work most refreshing to read at the present day, when one is surfeited with the multitude of writings on the subject written from a purely theoretical point of view, without regard to practical possibilities, and in a spirit of the most narrow intolerance. De Candolle's authority in taxonomical matters was universally recognized, and at the request of the committee of organization of the International Botanical Congress held at Paris in 1867, he prepared the *Lois de la Nomenclature Botanique* which was to serve as a basis for the discussion on disputed points of nomenclature. Together with the historical introduction and commentary presented to the Congress, they are generally known as De Candolle's Laws, and still serve as the basis for all discussions on nomenclature. He published subsequently other papers discussing some of the disputed points of nomen-

clature, and in all cases his candid, judicial statement of the questions appears all the more admirable when compared with the ill-natured and personal presentation of objections by some of his opponents.

De Candolle can hardly be said to have been a voluminous writer, although he was a frequent contributor to the different scientific proceedings and journals, especially the *Archives des Sciences Physiques et Naturelles* of Geneva. His style was easy and fluent, but although, as has been said, his method of study was statistical, his writings are neither dry nor tedious. He did not limit himself by any means to botany, but often discussed social and economical subjects, for, like his father, he considered that a good citizen should not shut himself up in the limits of his scientific studies, but should take an interest in all questions of public interest. One of his most generally interesting works is the volume of *Mélanges*, a series of essays on different subjects. Of his scattered papers, that which was most widely known, especially in English-speaking countries, was *La Langue Dominante*. In that paper he discussed the adaptabilities of different languages to the needs of modern civilized life, and he advanced the opinion that English, with its comparatively simple declensions and conjugations, with its facility for forming compound words and its abundance of short exclamatory expressions, was likely to become the universal language of the future. This agreeable prophecy, while it naturally found favor among English peoples, was regarded by some others as an expression of what they considered his prejudice for England and the English. That he had a genuine admiration for the English was shown in several ways, but his feeling was not so one-sided as to deserve the name of prejudice.

De Candolle was tall in stature, with a prominent nose, and small, rather deep-set eyes. His appearance was strikingly dignified, but it was not a freezing dignity, for his manners were polished and courteous, and he had the happy faculty of making all, no matter how different their ages or conditions, feel perfectly at ease in his presence. In conversation he was fluent and interesting, and he possessed that greatest of talents in a good talker, the power of drawing out what was interesting and instructive in others. Probably no botanist of recent times was more widely known personally, or more deservedly respected. Botanists from both hemispheres visited him in the family mansion at Geneva opposite the old cathedral, and he always took pleasure in showing the many treasures of books and plants which had been accumulated by his father and himself. He was untiring in his efforts to supply to correspondents any information in his power,

and he made no distinction between contemporary or well known botanists and the young or obscure. Many of the younger generation of botanists remember his kind words of encouragement and sympathy and are grateful for his criticisms, which were always made in a kindly spirit, without cynicism or ill-nature. His long and active life came gradually to a close, without physical suffering or mental decrepitude. It was the privilege of the writer to meet him in his library surrounded by his books only a few months before his death, and, although he had become somewhat deaf, it was hard to believe that he was so far up in the eighties, for he showed the same intelligence and the same interest in what was going on in the botanical world as he had shown twenty years before.

A list of the botanical writings of Alphonse de Candolle will be found in the *Revue Générale de Botanique*, Volume V., pages 200-208. 1893.

W. G. FARLOW.

AUGUST WILHELM VON HOFMANN.

AUGUST WILHELM HOFMANN, a Foreign Honorary Member of the Academy, was born in Giessen, April 8, 1818. His childhood passed quietly in his native place, and in its schools he was fitted for its University, at that time famous for the laboratory which Liebig had established in the old guard-house, and in which chemistry was first taught by experiment. It is not strange, therefore, that, after paying attention for a short time to other studies, Hofmann was attracted to chemistry and entered the laboratory. Here he soon became one of the most eminent among that company of students, including the picked men from all civilized countries, as his first researches, which related to the identity of aniline obtained from different sources, showed a grasp of the subject, a chemical insight, and a skill in experiment remarkable in so young a man. He also had the good fortune in the course of them to discover the chloranilines, the formation of which could not be brought into harmony with the dualistic theory then at the height of its dominion, and this brought his work prominently to the notice of the chemical world.

In 1840 Liebig took him as his private assistant, when it became his duty to do part of the editorial work on the "*Annalen der Chemie und Pharmacie*"; and this early literary training undoubtedly was a principal cause of the ease with which he